Name:

at1113exam: Expand, factor, and solve quadratics (v205)

1. Expand the following expression into standard form.

$$(8x - 3)^2$$

$64x^2 - 24x - 24x + 9$

$64x^2 - 48x + 9$

2. Solve the equation.

$$(4x + 7)(6x - 5) \;=\; 0$$

$x = \dfrac{-7}{4}$ $\qquad$ $x = \dfrac{5}{6}$

3. Expand the following expression into standard form.

$$(9x + 4)(9x - 4)$$

$81x^2 - 36x + 36x - 16$

$81x^2 - 16$

4. Expand the following expression into standard form.

$$(7x - 4)(5x - 9)$$

$35x^2 - 63x - 20x + 36$

$35x^2 - 83x + 36$

5. Solve the equation with factoring by grouping.

$$6x^2 + 8x - 15x - 20 = 0$$

$$(2x - 5)(3x + 4) = 0$$

$$x = \frac{5}{2} \qquad x = \frac{-4}{3}$$

6. Factor the expression.

$$x^2 - 12x + 35$$

$$(x - 5)(x - 7)$$

7. Solve the equation.

$$8x^2 - 12x - 4 = 5x^2 - 2x + 4$$

$$3x^2 - 10x - 8 = 0$$

$$(3x + 2)(x - 4) = 0$$

$$x = \frac{-2}{3} \qquad x = 4$$

8. Factor the expression.

$$16x^2 - 49$$

$$(4x + 7)(4x - 7)$$